

531,309

Rec'd PCT/PTO 13 APR 2005

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date  
29 April 2004 (29.04.2004)

PCT

(10) International Publication Number  
**WO 2004/035505 A1**

(51) International Patent Classification<sup>7</sup>: C04B 40/00, B28B 19/00, B28C 5/06

(74) Agent: CHAPMAN, Helga, Claire; Chapman Molony, Renshaw Barns, Upper Woodford, Salisbury SP4 6FA (GB).

(21) International Application Number:  
PCT/GB2003/004445

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(22) International Filing Date: 15 October 2003 (15.10.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
0223875.6 15 October 2002 (15.10.2002) GB

(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(71) Applicant (*for all designated States except US*): BPB PLC [GB/GB]; Park House, 15 Bath Road, Slough, SL1 3UF (GB).

(72) Inventors; and

(75) Inventors/Applicants (*for US only*): O'KEEFE, Samantha, Jane [GB/GB]; BPB Plc, Information Centre, Technical Centre, East Leake, Loughborough, LE12 6JS (GB). WOOD, Matthew, James [GB/GB]; BPB Plc, Information Centre, Technical Centre, East Leake, Loughborough, LE12 6JS (GB). WICHT, Andreas [DE/GB]; BPB Plc, Information Centre, Technical Centre, East Leake, Loughborough, LE12 6JS (GB).

**Published:**

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

WO 2004/035505 A1

(54) Title: METHOD AND APPARATUS FOR PRODUCING A MULTILAYER CEMENTITIOUS PRODUCT

(57) Abstract: A method of manufacturing a multilayered cementitious product comprising the steps of combining a cementitious material with water within a mixing container so as to form an aqueous slurry discharging the slurry from said mixing container through an outlet onto a support and inserting a setting accelerator into said slurry at or close to the outlet of the mixing container.

# INTERNATIONAL SEARCH REPORT

International Application No  
PCT/GB 03/04445

**A. CLASSIFICATION OF SUBJECT MATTER**  
 IPC 7 C04B40/00 B28B19/00 B28C5/06

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)  
 IPC 7 C04B B28B B28C

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 742 179 A (SIKA AG) 13 November 1996 (1996-11-13) the whole document	1-9, 12, 13, 15-18
Y	-----	10, 11, 14
X	WO 97/23337 A (UNITED STATES GYPSUM CO) 3 July 1997 (1997-07-03) the whole document	15-22
Y	-----	10, 11, 14
X	US 6 423 133 B1 (CHANE-CHING JEAN-YVES ET AL) 23 July 2002 (2002-07-23) column 1, line 13 - column 6, line 67	1-4, 9, 15-18
X	US 5 246 163 A (AMANO TOKIMOTO ET AL) 21 September 1993 (1993-09-21) column 2, line 60 - column 3, line 42	1-3, 15-18
	-----	-/-

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

° Special categories of cited documents :

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

22 March 2004

Date of mailing of the international search report

30/03/2004

Name and mailing address of the ISA  
 European Patent Office, P.B. 5818 Patentlaan 2  
 NL - 2280 HV Rijswijk  
 Tel: (+31-70) 340-2040, Tx. 31 651 epo nl,  
 Fax: (+31-70) 340-3016

Authorized officer

Gattinger, I

# INTERNATIONAL SEARCH REPORT

International Application No  
PCT/GB 03/04445

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4 046 357 A (TWITCHELL F SHAWN) 6 September 1977 (1977-09-06) column 1, line 8 - column 2, line 14 -----	1-3, 15-18
X	EP 0 681 999 A (GRACE W R & CO) 15 November 1995 (1995-11-15) the whole document -----	1,4,6
A	DE 22 01 717 A (UNITED STATES GYPSUM CO) 26 July 1973 (1973-07-26) page 1, line 1 - page 3, line 20 -----	

**INTERNATIONAL SEARCH REPORT**

Information on patent family members

International Application No

PCT/GB 03/04445

Patent document cited in search report		Publication date		Patent family member(s)	Publication date
EP 0742179	A	13-11-1996		AT 185540 T DE 59603322 D1 DK 742179 T3 EP 0742179 A1 ES 2139272 T3 GR 3032188 T3 NO 961799 A TR 960992 A1	15-10-1999 18-11-1999 10-04-2000 13-11-1996 01-02-2000 27-04-2000 11-11-1996 21-11-1996
WO 9723337	A	03-07-1997		US 5683635 A AT 258491 T AU 715479 B2 AU 1347197 A CA 2213499 A1 CN 1175922 A ,B DE 69631414 D1 EP 0810920 A1 JP 11501002 T PL 321861 A1 WO 9723337 A1	04-11-1997 15-02-2004 03-02-2000 17-07-1997 03-07-1997 11-03-1998 04-03-2004 10-12-1997 26-01-1999 22-12-1997 03-07-1997
US 6423133	B1	23-07-2002		FR 2769308 A1 AU 9445998 A CA 2305486 A1 EP 1019333 A1 WO 9918045 A1 JP 2001519309 T ZA 9808997 A	09-04-1999 27-04-1999 15-04-1999 19-07-2000 15-04-1999 23-10-2001 03-04-2000
US 5246163	A	21-09-1993		JP 2066980 C JP 4052377 A JP 7103691 B DE 4120409 A1	10-07-1996 20-02-1992 08-11-1995 02-01-1992
US 4046357	A	06-09-1977		NONE	
EP 0681999	A	15-11-1995		US 5401538 A AT 178874 T AU 683535 B2 AU 1615795 A CA 2144908 A1 CN 1119662 A DE 69508998 D1 DE 69508998 T2 EP 0681999 A2 ES 2131766 T3 HK 1002896 A1 JP 8002959 A ZA 9503312 A	28-03-1995 15-04-1999 13-11-1997 16-11-1995 10-11-1995 03-04-1996 20-05-1999 16-09-1999 15-11-1995 01-08-1999 17-03-2000 09-01-1996 05-01-1996
DE 2201717	A	26-07-1973	DE	2201717 A1	26-07-1973